Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

23. (Currently amended) A method of treating gases which contain nitrogen oxides, carbonaceous particulates including soot, hydrocarbons, and other residual constituents ~~including oxygen~~, which method comprises passing the gases through a reactor comprising ~~a~~ at least one bed of active material in an enclosure having gas flow conduits for directing gas flow through or over the bed of active material, applying an electrical potential to generate a non-thermal plasma in gas permeating the active material, at least a component of the active material being such as to adsorb or trap carbonaceous particulates ~~including soot~~, the electrical potential being applied to generate said non-thermal plasma during passage through the active material of the gases undergoing treatment and the component of active material is such as selectively to adsorb or trap carbonaceous particulates and the gases are further subjected to the action of a NO selective catalyst comprising silver doped alumina which selectively absorbs both NO and hydrocarbons and/or partially oxygenated hydrocarbons and promotes their reaction together to reduce NO directly to N_2. ~~whereby the trapped carbonaceous particulates including soot have a longer effective residence time in the non-thermal plasma relative to species in the gas flow which are not adsorbed or trapped and are oxidized by oxidative species present in the gases while conversion of NO to NO_2 is much less likely to occur.~~

24. (Cancelled)

25. (Currently amended) A method as claimed in claim 23

~~24~~, wherein the gases subjected to the action of a NO selective catalyst are also subjected to further plasma activation which promotes the formation of activated hydrocarbons and/or partially oxygenated hydrocarbons.

26. (Cancelled)

27. (Previously presented) A method as claimed in claim 23, wherein the bed of active material comprises beads of alumina.

28. (Previously presented) A method as claimed in claim 23, wherein the bed of active material includes a combustion catalyst.

29. (Currently amended) A method as claimed in claim 28, wherein the combustion catalyst comprises one or more materials selected from the group consisting of alkali metal oxide, or lanthanum oxide/alkali metal oxide/vanadium pentoxide, and vanadates ~~such as metavanadates and pyrovanadates~~.

30. (Previously presented) A method as claimed in claim 28, wherein oxidation to carbon dioxide and carbon monoxide of the said carbonaceous particulates ~~including soot~~ occurs at temperatures lower than the respective thermal oxidation temperature thereof.

31. (Previously presented) A method as claimed in claim 30, wherein the said oxidation to carbon dioxide and carbon monoxide occurs at temperatures lower than 250°C.

32. (Previously presented) A method as claimed in claim 30, wherein the said oxidation to carbon dioxide and carbon monoxide occurs at temperatures as low as 100°C.

33. (Previously presented) A method as claimed in claim 23, wherein the gases are subjected to flow through or over a plurality of beds of active material each of which adsorbs or traps a different predetermined chemical species.

34. (Currently amended) A method as claimed in claim 33, wherein, in the plurality of beds of active material, there is included, in addition to the active material for trapping carbonaceous particulates ~~including soot~~, active material which adsorbs or traps one or more predetermined chemical species from the group consisting of nitrogen, oxygen, oxides of carbon ~~such as CO, CO_2~~, water, hydrocarbons including saturated, unsaturated, cyclic, branched and un-branched hydrocarbons, oxygenated hydrocarbons, ~~such as~~ aldehydes, ketones, alcohols, acids ethers and esters, aromatic hydrocarbons and derivatives thereof ~~including poly aromatic hydrocarbon compounds~~, oil fractions, fuel and partially burned fuel, air and air/fuel mixes, sulphur compounds ~~including SO_2 and sulphates~~, organonitrogen species, acid gases, combustion modifiers/enhancers, ~~additives such as~~ urea, ammonia, cerium oxide ~~(such as Eolys)~~ and plasma activated species such as O, OH, O_3 activated hydrocarbons including partially oxygenated hydrocarbons/organic molecules and electronically and vibrationally excited state species.

35. (Previously presented) A method as claimed in claim 34, wherein the said additional active material is appropriately selected from the group consisting of dielectric or ferroelectric material, polymeric material, and ceramic material.

36. (Previously presented) A method as claimed in claim 23, wherein the bed or beds of active material is or are provided in the form of sheets, wafers, meshes, frits, coils, spheres, pellets, extrudate, granules, fibers, foams or honey-

comb monolith or as a coating on sheets, wafers, meshes, frits, coils, spheres, pellets, extrudates, granules, fibers or honeycomb monolith, foam, or membrane.

37. (Currently amended) A method as claimed in claim 23, wherein dielectric barrier material between the electrodes establishes a dielectric barrier discharge ~~type of~~ reactor.

38. (Currently amended) A non-thermal plasma reactor for the treatment of gases, which contain nitrogen oxides, carbonaceous particulates ~~including soot~~, hydrocarbons, and other residual constituents ~~including oxygen~~, which reactor comprises a bed of active material in an enclosure having gas flow conduits for directing gas to flow through or over the bed of active material, electrodes adapted when electrically energized to generate non-thermal plasma in the gas permeating the active material, at least a component of the active material ~~being such as~~ acting to adsorb or trap carbonaceous particulates ~~including soot~~ in the gas flow, wherein, in operation of the reactor, the component of active material is such as selectively to adsorb or trap carbonaceous particulates ~~said active material increases the effective residence time in the non-thermal plasma of the said carbonaceous particulates including soot relative to the residence time of species in the gas flow which are not adsorbed or trapped, and the trapped carbonaceous particulates including soot are oxidized by oxidative species present in the gases while conversion of NO to NO_2 is much less likely to occur,~~ and an NO selective catalyst comprising silver doped alumina is additionally provided for selectively adsorbing both NO and hydrocarbons and/or partially oxygenated hydrocarbons, and promoting their reaction together to reduce NO directly to N_2.

39. (Cancelled)

40. (Previously presented) A non-thermal plasma reactor as claimed in claim 38, wherein the bed of active material comprises beads of alumina.

41. (Previously presented) A non-thermal plasma reactor as claimed in claim 38, wherein the bed of active material includes a combustion catalyst.

42. (Currently amended) A non-thermal plasma reactor as claimed in claim 41, wherein the combustion catalyst comprises one or more materials selected from the group consisting of alkali metal oxide, or lanthanum oxide/alkali metal oxide/vanadium pentoxide, and vanadates ~~such as metavanadates and pyrovanadates~~.